

400 as described in applicant's specification. Formal drawings will be submitted in accordance with MPEP § 608.02 upon notice of allowance.

IN THE CLAIMS

A marked-up version of the claims, showing changes made, may be found in Appendix A, attached hereto. Below is a clean set of all pending claims, submitted under 37 C.F.R. §1.121(c)(3), incorporating any additions, cancellations, and amendments thereto. Please substitute these claims for pending claims of the same number.

7. A heat exchanger comprising

a first heat dissipation mechanism having a first heat dissipation capacity;
a second heat dissipation mechanism having a second heat dissipation capacity;
a variable thermal conductivity heat pipe having a first portion thermally coupled to a heat generating component, a second portion thermally coupled to the first heat dissipation mechanism, and a third portion separated from the first portion and the second portion by a limited conductivity portion and thermally coupled to the second heat dissipation mechanism.

8. The heat exchanger of claim 7 wherein the variable thermal conductivity heat pipe has a first thermal path with a first thermal conductivity which couples the heat generating component to the first heat dissipation mechanism and has a second thermal path with a second thermal conductivity which couples the heat generating component to the second heat dissipation

mechanism and wherein the first thermal conductivity is at least twice the second thermal conductivity and the first heat dissipation mechanism is an active heat dissipation mechanism.

9. (Twice Amended) The heat exchanger of claim 8 wherein the heat generating component is a processor and wherein the first thermal conductivity is approximately four times the second thermal conductivity.

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10. (Amended) The heat exchanger of claim 7 wherein the first heat dissipation mechanism is an active heat dissipation mechanism that is enabled depending on at least a temperature of the heat generating component.

11. The heat exchanger of claim 7 wherein the first heat dissipation mechanism is a fan based heat exchanger and wherein the second heat dissipation mechanism is a thermally conductive plate beneath and substantially parallel to a keyboard.

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~~12. (Amended) The heat exchanger of claim 7 wherein said heat generating component is an integrated circuit that is coupled to the first portion of the variable thermal conductivity heat pipe, and further wherein said variable conductivity heat pipe comprises a single sealed tubular member which is uniformly tubular except for the limited conductivity portion which is narrowed.~~

17. A system comprising:

an electronic component;

a variable thermal conductivity heat pipe having a first portion and a second portion separated by a throttling portion, the electronic component being thermally coupled to the first portion; and

a first heat dissipation mechanism thermally coupled to the first portion of the variable thermal conductivity heat pipe; and

a second heat dissipation mechanism thermally coupled to the second portion of the variable thermal conductivity heat pipe.

18. The system of claim 17 wherein the first heat dissipation mechanism is a fan based heat exchanger including a fan and a plurality of fins which are directly welded to the heat pipe.

B3 19. (Amended) The system of claim 18 wherein said electronic component is coupled to said first portion of said variable thermal conductivity heat pipe.

B3 20. (Amended) The system of claim 18 wherein said variable conductivity heat pipe comprises a single sealed tubular member which is uniformly tubular except for the limited conductivity portion which is narrowed.

21. The system of claim 18 wherein the second heat dissipation mechanism is a heat dissipation plate affixed beneath and substantially parallel to a keyboard.

27. An apparatus comprising:

at least one electronic component;

a heat pipe having a limited conductivity portion, the heat pipe having a first portion thermally coupled to the at least one electronic component;

a fan based heat exchanger thermally coupled to a second portion of the heat pipe;

a metallic plate coupled to a third portion of the heat pipe and separated from the first portion that is connected to the at least one electronic component by the limited conductivity portion of the heat pipe.

28. The apparatus of claim 27 wherein the metallic plate comprises a plate substantially beneath a keyboard.
29. The apparatus of claim 27 wherein said limited thermal conductivity portion of said heat pipe comprises a narrowed portion of said heat pipe.
30. The apparatus of claim 28 wherein the metallic plate comprises a portion of a thermally enhanced keyboard.

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31. (New) The apparatus of claim 27 wherein said electronic component is a processor and is coupled to said first portion of said heat pipe.

- BY *per page* 32. (New) The apparatus of claim 27 wherein said heat pipe is a uniform and sealed heat pipe except for the limited conductivity portion which is narrowed.
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